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## THE BATTLE OF KHAJJI

### AN ASSESSMENT OF AIRPOWER

By

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## *Contents*

	<i>Page</i>
DISCLAIMER.....	ii
ACKNOWLEDGMENT.....	iv
ABSTRACT .....	v
INTRODUCTION.....	1
ANALYSIS .....	5
Overall Impact of Airpower .....	6
Iraqi Intent.....	6
Information Warfare .....	10
Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) at Khafji .....	10
Battle Damage Assessment.....	18
Doctrine.....	23
Close Air Support .....	24
Interdiction .....	25
Emerging Air Force Doctrine.....	26
CONCLUSIONS .....	33
BIBLIOGRAPHY .....	39

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### *Abstract*

General Bernard Trainor has called the Battle of Khafji the defining moment of Desert Storm. General Charles Link has stated we must reexamine how we spend our defense dollars to restructure our future forces due to Khafji. Three former USAF Chiefs of Staff all recognized Khafji as a marker of airpower's ability to leverage sensors and new weapons to gain the advantage over enemy maneuver forces. This study examines Khafji to see if the ability of airpower to exploit the ground maneuvers elements exists and if it does decisively win the battle. To adequately examine the full scope of the battle, a joint team was formed.

The study examines the ability of airpower to single-handedly decide the outcome of a battle. It is about finding the Iraqi intent. It is about assessing the Command, Control, Communications, Computers, Intelligence, Reconnaissance, and Surveillance during the battle and analyzing how it controlled the battle space. It appraises the Battle Damage Assessment and how it failed to correctly assess the destruction on the battlefield, both physical and functional. And it looks at our emerging Doctrine as seen through the eyes of this single battle. This study will look at these areas and analyzes them in the context of Khafji and whether airpower can decisively win the battle.

# **Chapter 1**

## **Introduction**

*The United States relies on the Air Force and the Air Force has never been the decisive factor in the history of wars.*

—Saddam Hussein (1990)<sup>1</sup>

Major General Salah Aboud Mahmaud, the Iraqi III Corps commander, sat in his helicopter and watched two American F-111 fighter aircraft destroy the building where he was going to have his commander's conference. He leaned over to his executive officer and told him he hoped this was not a bad omen for the upcoming offensive.<sup>2</sup>

On 29 January 1991, the III Corps executed the only major Iraqi ground attack since their invasion of Kuwait. The engagements would be known as the “Battle of Khafji.” It would be a four pronged attack in the southern region of Kuwait from the area known as the heel and elbow to the East Coast and in the gulf. The attack included elements of the 5<sup>th</sup> Mechanized Division supported by the 1<sup>st</sup> Mechanized and 3<sup>rd</sup> Armored Divisions. It consisted of three brigade to battalion sized units. All but one would be defeated in the initial thrust. Because of the timing of the battle, few lessons learned would be drawn from it until after the war. Once the war was completed, many considered this battle to have been the defining moment or engagement in Desert Storm.

After the war, when all the dust had settled, Air Force personnel looked at Khafji as the first time airpower was *the* decisive instrument of military power. The lessons learned according to General Horner were:

The battle of Khafji did validate the idea that airpower could be used to defeat the enemy army before it closed with our own ground forces, that it could feed the battle indigestible chunks for our own friendly ground forces. Khafji validated what a lot of airman had been saying for a long time.<sup>3</sup>

In fact, the lessons learned from Khafji may not have been any different from previous wars. Close Air Support (CAS) and Battlefield Air Interdiction (BAI) are suitable when enemy forces are moving and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) is extremely important to prosecute the attack. One of the differences in the Gulf War may have been new technology. Stealth, precision guided munitions, and information superiority increased the capabilities and firepower of our force structure. The new twist which technology brought to the war was “airpower can effectively attack these moving ground forces even when they (the enemy ground forces) imagine they are concealed by darkness.”<sup>4</sup> It enabled the war to be fought effectively for 24 hours each day. But Khafji may not have been the culminating point in proving airpower.

Was the “Battle of Khafji” really the crowning glory of the Air Force and the validation they have proclaimed for so many years? Or was it just an evolution of airpower through technological improvements and the proper application? What was the Iraqi intent? Did airpower really destroy the number of vehicles mentioned in the Gulf War Air Power Survey (GWAPS) or does the military have a Battle Damage Assessment (BDA) problem? Did airpower stop the Iraqis from reinforcing the forward line of troops

alone, without the assistance of the ground component? Had air power finally become *the decisive* instrument of military power and the predominant element as General of the Army Omar Bradley suggested half a century ago?

Air power has become predominant, both as a deterrent to war, and – in the eventuality of war – as the devastating force to destroy an enemy's potential and fatally undermine his will to wage war.<sup>5</sup>

Or was success caused by the combined efforts of the Marine ground forces, Marine aviation in direct support of the battle and the interdiction efforts of the Air Force?

The Air Force may never know all the answers, but before it develops new doctrine and changes concepts for future conflicts, it must consider the entire story. Whatever the Air Force decides, it will have a profound effect on the way the Air Force organizes, trains and equips the force of the future. A careful re-examination of the Battle of Khafji looking at the Iraqi intent, C4ISR, BDA, and our emerging doctrine would thus seem to be in order. The report will not be a repeat of the battle but an analysis of these areas of interest.

## Notes

<sup>1</sup> Richard P. Hallion, Storm Over Iraq: Air Power and the Gulf War. Washington and London: Smithsonian Institution Press, p. 162.

<sup>2</sup> Robert H. Scales, Jr., Brigadier General, Certain Victory. Washington D.C.: Officer of the Chief of Staff, United States Army, 1993, pp. . I have drawn a little into the story to help build on this paper. The United States knows that General Mahmaud was not in the building but they do not know if he was in the helicopter. An alert analyst had intercepted a transmission that mentioned a commander's conference to be held in the Iraqi III Corps sector two day prior to the Battle of Khafji. This information was transmitted to Riyadh where two F-111 fighters suitably armed were diverted to the target area. They did release weapons on the building in question. The next day, overhead imagery confirmed the building was hit and showed an Iraqi helicopter nearby. I have taken literary license concerning this incident about General Mahmaud being there and watching the attack.

## Notes

<sup>3</sup> <HTTP://www2.pbs.org/wgbh/pages/frontline/gulf/oral/horner/3.html>. The Gulf War: Front-line. Interview with General Charles Horner, Commander of the U.S. Ninth Air Force. P. 4.

<sup>4</sup> Daniel R. Clevenger, "Battle of Khafji:" Air Power Effectiveness In The Desert. Volume 1 (U). Air Forces Studies and Analyses Agency, Force Application Division, July 1996, p. 40.

<sup>5</sup> Charles M. Westenhoff, Lt Col., Military Air Power: the CADRE Digest of Air Power Opinions and Thoughts, Air University Press, Maxwell AFB, 1990, p. 49.

## Chapter 2

### Analysis

*You really don't know how you're doing against an army until that army tries to perform its function. If it's just sitting there taking the punishment, we know we're hurting it. We really don't know how badly we've hurt it until starts to move, or until it comes up on the radio so we can hear it talking to other units.*

—General Colin Powell, Chairman, Joint Chiefs of Staff  
Jan 23, 1991, ABC-TV<sup>1</sup>

In three days, according to the Gulf War Air Power Survey (GWAPS), the Coalition air forces destroyed four times the number of mechanized vehicles than in the previous two weeks. According to a captured Iraqi officer, “he witnessed more destruction in 15 minutes of retreat than seen in eight years of fighting the Iranians”.<sup>2</sup> Another Iraqi captain stated “that his brigade, who had been tasked to support units in Al Khafji, was stopped dead, short of the border by a combination of air power and Arab tanks.”<sup>3</sup> The 5<sup>th</sup> Mechanized Division, the spearhead of the attack, was basically destroyed. According to some, the division moved north of Basra and was less than 50% effective after Khafji. General Horner said:

Khafji is a tremendous victory for air power, and it's a tremendous victory overall in terms of what happen in Operation DESERT STORM, because it laid the final nail in the coffin of the Iraqi Army.<sup>4</sup>

But, was airpower the decisive element in this battle and the hammer that pounded in the nail? Was the overall impact of airpower the decisive element of the battle?

## Overall Impact of Airpower

*[World War II] showed beyond all cavil that airpower, especially when applied as widely and in as many directions as the United States could [apply it], dominated surface warfare.*

David MacIsaac<sup>5</sup>

The impact of airpower in the Battle of Khafji was a decisive element in the battle, particularly when you consider that artillery and naval gunfire were out of position to support the screening forces along the border. But it was not the singularly decisive element. Dr Rebecca Grant says, “Dominance in the air can strip the initiative from an enemy force and do it with the efficiency that makes airpower the decisive weight in the operational balance.”<sup>6</sup> Airpower at Khafji did not strip the initiative from the enemy; it reacted slowly, yet succeeded due to our dominance in the air. Our shortcomings were evident in post action analysis of the Iraqi intent, C4ISR, and Battlefield Damage Assessment. This battle serves to illuminate the importance of combined arms, rather than validate airpower as a conclusive force able to halt a determined enemy armored offensive. If the results are slightly tainted, the Air Force may need to revisit its emerging doctrine concerning the halt phase. These are areas the Air Force needs to study as they prepare for the next war.

## Iraqi Intent

*The future of battle on the ground will be preceded by battle in the air. This will determine which of the contestants has to suffer operational and tactical disadvantages and be forced throughout the battle into adopting compromise solutions.*

Field Marshall Erwin Rommel<sup>7</sup>

The evening of 29 January 1991, Saddam Hussein launched a surprise attack into southern Kuwait. Why Saddam executed this maneuver is not documented and therefore can only be deduced by analysis of available data. Current Air Force views believe that the battle of Khafji was a “major offensive” involving division size forces. The purpose of the attack was to:

1. Heighten morale of Iraqi troops by taking the offensive, instead of simply enduring further air attacks with virtually non-existent, or perhaps more accurately non-effective air defenses.
2. Humiliate Saudi forces and inflict causalities on coalition troops, especially U.S. troops.
3. Perhaps split the coalition when Arab forces were faced with the prospect of actually attacking other Arabs in cooperation with non-Arabs.
4. Take prisoners as a source of intelligence, since Iraqi reconnaissance flights were not possible in the face of coalition air superiority.
5. Determine the disposition of coalition forces along the border. Their intelligence regarding the coalition lay-down was non-existent.<sup>8</sup>

Although these views are supported by several secondary sources, review of primary sources coupled with an assessment of basic maneuver tactics, appear to contradict a large-scale offensive. Instead, it appears that the attacks were limited in scope for the purpose of capturing EPWs and gaining tactical intelligence on coalition activities. Subsequent movement of larger units in the KTO appears to be a repositioning of forces to their final defensive positions in preparation for what the Iraqis perceived was a pending coalition attack. There are numerous reasons for these conclusions.

The strongest evidence supporting a limited attack scenario were the numerous EPW reports that stated: “The sole purpose of the raid on Al-Khafji was to capture coalition personnel. The loss of all Iraqi equipment and personnel involved in the raid was of no importance as long as POWs were captured.”<sup>9</sup> Lack of intelligence seems to be the impetus for a series of cross border raids prior to the attack on Khafji to capture

coalition prisoners. Although successful in capturing a few Saudi border posts, the Iraqis were turned back by Marine ground forces on 22 January 1991 when they attempted to lay a trap to capture the Marine guard post at OP-6.<sup>10</sup> An Iraqi EPW later reported that they “had no idea that the OP would fight so hard.”<sup>11</sup> The subsequent attack was most likely in recognition that a stronger force was required to gain intelligence and capture prisoners. This concept was reinforced by the locations of the attacks. The western portion of Kuwait, from the bend to the Iraqi border, was completely undefended. The CTF West was in defenses well south of the border. Additionally, an attack from this direction could have threatened the flank of the Army forces moving to their western attack positions. Instead, the Iraqis chose a known defended U.S. border. Assuming they were unaware of the western movement of Army forces, then they would be attacking into the teeth of the coalition defensive positions. However, a short reconnaissance in force conducted to a limited depth could achieve both the requirements for prisoners and intelligence.

Although three separate divisions were identified as participating in the attack, only four battalion size elements were ever determined to be actively involved with the cross-border attack.<sup>12</sup>

The EPW reports were substantiated by the tactical actions of the attacking forces. Two of the Iraqi battalions were stopped before they could cross the border in force. However, a mechanized battalion augmented with tanks drove unmolested into Khafji and stopped in the center of the town.<sup>13</sup> Why was there no attempt to continue the attack further south? Why did some of these forces then begin withdrawing back to the north?

Positioning of specific Iraqi forces also argue against a large-scale attack. For example, Iraqi's 6<sup>th</sup> Armored Brigade from the 3<sup>rd</sup> Armored Division was located in the Al Wafrah wooded area and provided the tank battalion that attacked at OP-4.<sup>14</sup> If III Corps really intended a multi-division attack, why would it commit its primary exploitation force as a front line penetration force? JSTARS report that III Corps artillery had moved and arranged itself in an arc approximately 30-40 Km north of the Saudi border seems to indicate a defensive not offensive posture. This positioning of the artillery also reinforces the concept that Iraqi forces were moving to their final defensive positions in the KTO.

JSTAR reports highlight significant movement throughout the KTO both before and during the battle, but the majority of the movement is lateral indicating a move to defensive positions and not major offensive formations.<sup>15</sup> These movements coupled with the lack of timing in terms of commitment of forces again support a move of forces north of the border to defensive positions and not a synchronized attack.

Although one of the better units, III Corps fighting history during the Iran/Iraq war was limited to the defense of Basra and limited counter-attacks. The Republican Guard forces were developed during the Iran/Iraq war for the purpose of conducting major offensive operations and did so very successfully. Therefore, if the Iraqi intent was for a major offensive then it would be the Republican Guards not III Corps.

The United States may never know for sure what motivated Saddam Hussein to attack Saudi Arabia and what his true intent was that night. There are numerous other theories but the research appears to support only a limited attack by battalion size units with the intent to gain intelligence concerning a potential coalition attack. The significant

movement in theater appears to be of defensive nature in support of Iraqi Doctrine, not offensive nature.

## Information Warfare

*The Central problem is not collecting and transmitting information, but synthesizing for the decision-maker.*

Richard Burt<sup>16</sup>

One of the Air Force's core competencies is Information Superiority. It is also in Joint Vision 2010. To be able to maintain military superiority, the United States needs to have information dominance and that will be obtained through information warfare. Global Engagement states, "The ability of the future Joint Team to achieve dominant battlefield awareness will depend heavily on the ability of the Air Force's air and space based assets to provide global awareness, intelligence, communications, weather, and navigation support."<sup>17</sup> Additionally, James B. Bruce, Executive Secretary National Intelligence Council highlights the Iraqis use of denial and deception operations were very good.<sup>18</sup> During the Battle of Khafji, the Air Force fell short of utilizing their information warfare assets full capabilities to maintain information dominance available to their commanders. The areas to be analyzed are C4ISR and BDA.

### **Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) at Khafji**

*It would have been very useful if we could have done a better job of bringing all our intelligence together very rapidly, say aboard a AWACS where a controller then could give more meaningful direction to the aircraft coming to the battle.*

General (Ret) Charles Horner, USAF  
JFACC interview 27 Feb. 1996<sup>19</sup>

C4ISR during the Khafji Battle failed in several respects. First, situational awareness across the battlefield lacked a reasonable degree of near real-time knowledge of enemy and friendly actions. Intelligence support was not fully integrated under a central Joint Intelligence Center (JIC). Assessment and dissemination of imagery and battle damage assessment was processed too slowly and failed to get to the appropriate level of decision-makers.<sup>20</sup> Second, airpower responded slowly due to inefficiencies in the communication architecture. The 72-hour Air Tasking Order (ATO) cycle was cumbersome, and for the Navy it was a major task requiring courier service to the ships. The Tactical Air Coordination Center (TACC) personnel lacked critical information, causing at times painfully slow reactions to battlefield changes. Additionally, the TACC's focus on the Master Attack Plan targets, and ATO generated sorties was too narrow again slowing reaction to reports of enemy activity along the Saudi/Kuwait border. Only after General Horner received an update later in the evening of 29 January 1991, did the TACC consider responding.<sup>21</sup> Finally, seams existed as a result of control measures such as Fire Support Coordination Lines (FSCLs), Airspace Coordination Areas (ACAs) and Tactical Areas of Responsibility (TAORs). This resulted in limited commander cross-coordination and several potentially dangerous situations. Winston Churchill once said, "The Americans will do the right thing, but only after they have exhausted all the alternatives". The coalition eventually prevailed at Khafji. Unfortunately, as General Buster Glosson later recalled, "Khafji would be remembered as

a day that the Air Force would like to forget, because the JSTARS clearly showed advancement of armor moving South.”<sup>22</sup>

The coalition had established priorities for intelligence information gathering. The precedence was to find the location of SCUDS, monitor the Republican Guard (RGFC) and assess BDA. As the Khafji battle began, there was a major SCUD search being conducted that drew on extensive collection assets. The RGFC locations had been located earlier but as luck would have it, several RGFC units had moved and their location was unknown. The location of the RGFC created considerable concern and seemingly lent credibility to the estimate of the Khafji action as diversionary.<sup>23</sup> The focused effort of intelligence, combined with the political sensitivity of eliminating the SCUD threat and protecting the repositioning of ARCENT, resulted in ignoring the extensive movement of Iraqi forces within the Southern KTO.

Reconnaissance teams positioned along the border had identified, reported and engaged Iraqi forces throughout the week prior to Khafji.<sup>24</sup> The CIA had provided advance warning of a likely offensive by Iraqi forces to Central Command’s operation centers a week prior to the battle. Pilots had made numerous reports of concentration of enemy forces within the southern KTO.<sup>25</sup> But little was done to prepare for the obvious Iraqi offensive!

Rumors were generated of an impending Iraqi offensive, but little effort to follow-up on reports with theater level collection asset was made. Army and Marine ground forces conducted screening operations without adequate fire support, especially if an enemy armored offensive was anticipated. Artillery and Naval Gunfire Surface Fires (NGSF) were never positioned to support the screening operations. Admiral Arthur had

made arrangements with General Boomer to provide naval air support in lieu of NGSF in order to avoid placing his ships prematurely into mined waters and susceptible to surface-to-ship missiles. Coalition artillery was located outside the counter-battery range of Iraqi artillery to preserve combat power for the ground offensive. These decisions appeared rational until the indications and warnings were evaluated. The C4ISR system failed to initiate decisions that would provide adequate precautions. Airpower became the only decisive fire support available to defend against the enemy. Yet even the effects of airpower were not optimized due to the lack of preparation to utilize it in a close battle in support of ground operations.

Situational awareness prior to the 29 January 1991 when the Iraqi forces took Khafji lacked coherence among all the forces. All components were focused on their 'piece of the pie.' ARCENT was positioning for the future ground war. AFCENT concentrated primarily on strategic attack and SCUD hunting. NAVCENT contributed their part to the air campaign and in the defense of the naval fleet in the Gulf. MARCENT was preparing for the complicated minefield breaching operations and providing their share to the JFACC while apportioning other sorties for support of their ground forces. The indications and warnings were basically ignored resulting in minimal ISR assets allocated to preventing any penetration of the Saudi border. On the 29 January 1991, when enemy forces conducted offensive action along the 90-mile border and at sea, the coalition was ill prepared and slow to regain the initiative.

First contact with Iraqi forces was reported at OP-4 at 2045. By 2130 the Marine Corps Direct Air Support Center (DASC) had F-18s on station to respond. During the next two hours, the Navy engaged and destroyed enemy patrol boats off the coast of

Kuwait heading south. Simultaneously, two OPs had withdrawn under pressure and OP-2 was under attack. Soon thereafter, the town of Khafji was occupied by Iraqi troops. The report of the naval engagement was not known at the TACC until the following day. The situation at Khafji was relatively unknown until early the next morning. Sources indicated that the JFACC believed these actions were diversionary, in order to redirect our efforts from their RGFCs. The JFACC was inundated with requests for surveillance and tactical reconnaissance as late as 0900 the next morning, but at this point only the tactical reconnaissance aircraft was redirected. The re-direction of the JSTARS occurred during the evening hours for a 20-minute look every hour in the Southern KTO, with 40 minutes remaining out to the West focusing on SCUDs. The reconnaissance aircraft confirmed enemy movement, however the imagery arrived four and one half-hours later. The Army remained concerned that Iraqi forces would attempt a spoiling attack on their forces moving to the west and also demanded surveillance assets. There never was a reasonable degree of near real-time knowledge of the enemy and friendly actions.

“War is the realm of uncertainty, three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty. A sensitive and discriminating judgement is called for; a skilled intelligence to scent out the truth.”<sup>26</sup> The Observation, Orientation, Decision and Action Loop (OODA Loop) was laboriously slow. Several factors are attributed to this. First, coalition forces were lulled into a false sense of security. Reports of Iraqi surrenders, inactivity of enemy and high battle damage assessments dominated the thinking countering the skilled intelligence required to scent out the truth. Secondly, the air campaign was an enormous undertaking. The production of the ATO took 72 hours and it was difficult to disseminate. The commander’s intent

for use of airpower was clearly oriented on destruction of strategic targets and left little room for deviation. Only after General Horner was made aware of the actions on the border, 4 hours after the engagement at OP-4, did the TACC begin to re-direct some of their efforts. Thirdly, coalition forces attempted to minimize casualties at this early stage. They avoided positioning of artillery and NGSF into higher threat locations, which either put them out of effective range or reduced their reaction time.

To compound the slow response to the enemy initiative, communications requirements could not match demands. MARCENT imagery support was limited by the capacity of the Navy's Fleet Imagery Terminal's low capacity of the UHF SATCOM channels. Limitations of Tactical Air Reconnaissance Pods (TARPS) on Navy aircraft due to the high altitude profiles, combined with the film based system made the response slow and inadequate. Much of the JFACC coordination with land based wings was via telephone but limited to a single radio circuit between the JFACC and the Navy battle forces. At the tactical level, communication between the Airborne Control Element (ACE) aboard the AWACS, the JSTARS, the EC-130 ABCCC and the DASC was corrupted by incompatible or unreliable systems.<sup>27</sup> In many cases, aircraft flew in kill boxes or waited at contact points due to poor communications or clogged nets. Numerous sorties went unused. For example, the first JFACC diverted aircraft on scene to support operations at OP-4 were not used. The F-15Es could not contact the ABCCC, and the A-10s were unable to establish a link between the DASC and the ground forward air controller.<sup>28</sup> Airspace coordination became hazardous without effective coordination between the responsible agencies. Ground forward air controllers were experiencing jamming, resulting in losing valuable air assets. Communications were strained, with the

UHF SATCOM net saturated, creating mutual interference. MARCENT air request nets relied on HF, which was hampered by climatic conditions, yielding poor propagation. Ground units, especially the Saudi forces, remained out of contact throughout most of the first day, which severely clouded the picture. Even without the communications problems, there still existed control inefficiencies. The ABCCC, AWACS and JSTARS all responded to the TACC tasking and direction. There was no intermediate level of control with redirect or engagement authority to attack time critical targets. The advent of the Airborne Command Element (ACE) currently evolving may alleviate the above problems, but at Khafji, decentralized execution was strained and laborious.

The last remaining aspect to address in analyzing C4ISR at Khafji is the dangerous seam created by the preponderance of control measures or lines that criss-cross the battlefield. The FSCL was moved twice during the battle of Khafji. Initially it was 5 miles beyond the border. During the initial engagements, ground FACs could not observe and mark targets for CAS beyond their line of sight, yet the FSCL extended well past their area of observation. This allowed the enemy relative freedom of action within the area south of the FSCL. When the Saudis conducted their counter-attack on 30 January 1991, the FSCL was brought to the border to allow coalition airpower the freedom to engage. Moving the FSCL south enhanced the effects of air, but BDA was less reliable. Post war BDA studies indicate that destruction of enemy armor by air was less substantial than reported by pilots. In all the cases above, the seams were created in the air and on land by the drawing of lines on the battlefield. These lines reduced effectiveness and failed to create the battlefield awareness necessary to mass the effects of our efforts against the enemy.

The concept is to develop a more effective coordination through reliable communications, near real time intelligence and battlefield awareness. Airspace coordination requires a designated coordinator, preferably forward in a reliable communications platform. The Air Force in its Global Engagement document states, “The ability of the future Joint Team to achieve dominant battlefield awareness will depend heavily on the ability of the Air Force’s air-and-space based assets to provide global awareness, intelligence, communications, weather, and navigation support.”<sup>29</sup> The battle of Khafji provided numerous examples of individual innovation to get the job done. But it also showed that there needs to be greater flexibility and coordination among the services. The JFACC requires intermediate levels of command and control airborne to facilitate airspace coordination and more responsiveness to emerging changes on the battlefield.

In summary, C4ISR as a battlefield operating system was inefficient during the battle of Khafji. Intelligence as it synthesized information was deprived of accurate battle damage assessment, a persistent surveillance capability, and adequate reconnaissance collection resources. The rapid pace of the air campaign, coupled with the ability of new sensors, such as JSTARS, outran the procedures which theater-wide air constructed tasking. Decision-makers at various levels of the Tactical Air Control System often did not get the information they needed.<sup>30</sup> Airpower was undoubtedly the essential element in disrupting the enemy offensive, but conditions were not in place to optimize our combat power. After review of total JFACC diverted sorties and the actual strikes that were successfully executed, the impact upon the enemy was far less than it could have been. The enemy actions were defeated employing ad hoc procedures and the gritty

determination of pilots, crews and the ground forces that all performed admirably. The question that needs to be asked is would the C4ISR systems in Kuwait have been capable of responding to a truly determined enemy armored offensive. That answer cannot be determined from this battle. What is known and needs to be fixed are the inefficiencies noted at Khafji, despite winning the battle.

### **Battle Damage Assessment**

*While overall the intelligence and space system support to Desert Storm can be considered a qualified success, battle damage assessment was much less so – and in fact was considered by many to be the principal intelligence ‘failure’ of the war.*

A League of Airmen: US Airpower in the Gulf War<sup>31</sup>

When the war started, the Coalition was ready for almost everything but how to assess battle damage. “With these burdens to be borne, there was little room for a beginning-to-end joint BDA architecture. Few prewar BDA and intelligence-collection exercises were held, since the focus was on warning and deployment, not on strike planning. As a result, an ad hoc joint BDA architecture had to be built largely from scratch during the conflict.”<sup>32</sup> This would become a problem as CENTAF, NAVCENT, MARCENT, and ARCENT all interpreted and reported the damage being inflicted by air differently.

CENTAF intelligence reported to a theater battle damage assessment cell on targets attacked in Iraq; the Naval Component of Central Command (NAVCENT) accomplished damage assessments of Iraqi naval facilities and vessels; the Marine Component of Central Command (MARCENT) provided damage assessments of Iraqi ground force targets within the Marine area of operations; and the Army Component of Central Command (ARCENT) reported the damage inflicted on the remainder of the Iraqi ground forces.<sup>33</sup>

Planners also used unofficial sources of information to get their BDA and measure attrition levels on the battlefield.<sup>34</sup> This led to problems in assessing how effective airpower was in inflicting damage to the Iraqis. At least three post war assessments of BDA were done; one by the Gulf War Air Power Survey, another by Marine Mission Reports (MISREPS), and also a ground survey by a civilian group led by Mr. John Talbot. As these three reports indicate there is a clear discrepancy. Just comparing tanks, the GWAPS claimed 554 tanks were destroyed from the air during the battle of Khafji. The Marines claim air assets during the entire war killed 165 tanks. Mr. Talbot's joint assessment team could only find 163 tanks killed in the entire KTO and only 28 of these were due to air power (both air force and helicopters). An even bigger surprise is the large number (235) of fully operational tanks that were taken for future use by the Syrians, Egyptians, U.S., and other coalition forces. Both the GWAPS and Marine data reliability are questionable because of the collection methods and data sources. Mr. Talbot study, although surprising low, appears to have conducted the most thorough analysis. His team conducted both ground and air reconnaissance of the entire KTO (Note: their study did not include forces destroyed in Iraq where the major land battles occurred with the Republican Guard and U.S. Army forces.) Using atomic coding for a relatively high degree of accuracy, the team was able to determine the types of weapons that actually hit/destroyed the tanks. Although, there was some discrepancies involving kills due to A10 and ground 30mm Vs 25mm rounds it appears that the numbers are the most accurate available at this time. Mr. Talbot's numbers are also supported by some classified battle damage assessments. Analysis of all these reports confirms BDA was a

serious problem and led planners to believe the damage they were inflicting was greater than reality.

The primary reason for the scantiness of information was the lack of an integrated BDA concept of operation. This was caused by not fully integrating the BDA process with the attack planning process. General Schwarzkopf further complicated the issue by making ARCENT and MARCENT responsible for assessing the damage to the Iraqis in their sector because of his 50% rule.<sup>35</sup> The Army, Marines, and Air Force did not have a clear idea on how to assess BDA. Because of this, the percentage number of kills was never the same. This led to a misinterpretation of the Iraqi's true strength.<sup>36</sup>

A second factor was the difference between functional and physical damage. The ability to collect functional damage was non-existent during the war and is an area the military needs to further study. A bomb might hit a building or bunker, but to the analyst, the damage assessed might be minimal. If the building remained standing, it was difficult for the photo interpreter to determine what damage had been done internally to the building. The building might not even be the target, but specific individuals that were in the building during the attack. The process took time and did not meet the demands of the Air Tasking Order (ATO).<sup>37</sup>

Thirdly, dissemination of tactical imagery was poor at best. Wing planners were dependent on the videotapes from the aircraft cockpits to assess battle damage to plan re-strikes. Adding to the confusion, ARCENT only used video imagery from four aircraft for attrition estimates: the A-10, F-111, F-15E, and AV-8.<sup>38</sup> There was constant disagreement concerning how many tanks were truly destroyed. Even today, the United States is not certain how many vehicles were destroyed during the war.

Finally, there was no appreciation or process to account for Iraqi denial and deception operation. As mentioned earlier, Iraqi denial and deception operations were significant. At the tactical level the Iraqis used decoys as one pilot attacking suspected forces in the Al Wafrah woods identified and called off subsequent attacks.<sup>39</sup> EPW reports also highlighted that Iraqis carried old tires and fuel on the back of their tanks. When an air attack occurred, the Iraqis would light the tires and abandon the vehicle as if it had been destroyed.<sup>40</sup> This may account for the multiple pilot MISREPS that highlight after only a couple of passes reported all the vehicles were on fire and there were lots of smoke and people running from the vehicles. Denial and deception operations are relatively cheap combat multipliers that were never fully appreciated by either the ground or air forces in the Gulf War. The Iraqi's methods of deception kept the coalition forces from having real physical evidence of destroyed vehicles.

This lack of actual physical evidence of large number of destroyed vehicles does not negate the role of airpower. There are different measurements of enemy capability and destruction is only one of them. Unfortunately, with the CNN age, the public is now able to see the physical destruction and constantly demands more information and answers. The videotapes from high tech aircraft give the public what they want and lead them to believe the military are destroying more than they are capable of destroying. What is more important and needs to be evaluated more closely is the psychological damage done by airpower. "From the perspective of the Iraqi troops in the KTO, the 'air campaign's' psychological damage exceeded [its] physical damage:

1. It was ubiquitous – there were always aircraft overhead;
2. It was intense – bombing went on around the clock, day in and day out;
3. It was accurate; and

4. It was impossible to defend against.<sup>41</sup>

This was probably one of the most important factors airpower played in during the Battle of Khafji as well as during the entire conflict in the Kuwaiti AOR. It reduced the size and morale of the forces facing the Coalition. More importantly, it forced the Iraqi ground forces to fight differently than what they would have preferred. It also put them at a distinct tactical disadvantage that could be exploited by attacking ground forces.

Battle Damage Assessment is not a science. The military failed to assess the battlefield correctly during Khafji because they were more interested in numbers than in effects. If the military looks at statistical damage done during the battles and the wars of the future, they may not meet their objectives. If they look at the results, they will probably be a strategic success. BDA needs to be an assessment of the battlefield that enable the leaders to make the correct decisions in distribution of forces, not in how many tanks are destroyed. “Bean counting,” whether it is enemy Killed in Action (KIA) as in Vietnam or vehicles destroyed as in the Gulf War, is not necessarily an appropriate measure of success. The effect of the damage is what will become important in the future as commanders make decisions on the next day’s targets and measure their success. Again, care must be taken when depending strictly on psychological effects. It is enemy dependent. If an enemy’s will is strong, as history has shown, massive firepower is not sufficient to prevent them from continuing the operation. What is needed is a battle assessment indicator vice just battle damage assessment that considers all the factors of airpower effects.

In summary, the issues concerning BDA are summarized very well by the RAND study done by James A. Winnefeld:

1. Knowledge about information-related capabilities and how best to exploit them (i.e., theater commanders understanding the capabilities and limitations of sensors and platforms).
2. Understanding of the processes, procedures, and time involved in the collection, analysis, interpretation, and dissemination of BDA information.
3. Commonly agreed upon and standardized rules for conducting BDA among the theater commands, services, and intelligence agencies.
4. Timely, tactical post-strike target intelligence other than that transmitted by USAF RF-4Cs, Navy F-14s, VTRs on various tactical aircraft, and Army, Navy, and Marine Corps UAVs. The lack of timely post-strike target intelligence continues to be a problem throughout the war and led to a reliance on fighter-mounted VTRs for timely post-strike tactical BDA.<sup>42</sup>

Basically, most of the BDA problems arose from never planning for BDA collection and allowing for Iraqi use of denial and deception operations. There was not an integrated concept of operations and when the need arose, it was not there. Decision-makers had to make ad hoc adjustments. The result was misinformation and bad data resulting in confusion on the battlefield. No one was quite certain how much of the Iraqi force structure had been destroyed. This resulted in the Air Force believing they had destroyed more vehicles during the Battle of Khafji and influenced their interpretation of the results. Did they in fact ‘halt’ several divisions from reinforcing the town? Without a better BDA collection and confirmation process can we accept the risk involved with the emerging ‘halt phase’ doctrine?

## **Doctrine**

*Those who are possessed of a definitive body of doctrine and of deeply rooted convictions upon it will be in a much better position to deal with the shifts and surprises of daily affairs than those who are merely taking short views, and indulging their natural impulses as they are evoked by what they read from day to day.*

Winston Churchill

In the 1980's, the Army developed the doctrine AirLand Battle for Europe. The premise of their doctrine was to extend the battlefield emphasizing the deeper physical dimension of the modern battlefield along with the time and air-land dimension.<sup>43</sup> The key to AirLand Battle was offensive air support, in particular, the interdiction aspect. "Battlefield air interdiction would enable the corps commander to engage the second echelon with air sorties before those forces became a first echelon problem."<sup>44</sup> Though it took time, the Air Force agreed to the Army's doctrine and it became part of the North Atlantic Treaty Organization's Allied Tactical publication on Offensive Air Support. General Russ, the Commander, Tactical Air Command would say that the primary function of the Air Force was to support the ground troops.<sup>45</sup> Ten years later, in the Battle of Khafji, the United States Air Force and Marines would fight a decisive battle utilizing concepts of AirLand Battle. Tactical doctrine of Close Air Support and (Battlefield Air) Interdiction would be used to support Marine soldiers and help turn the tide during the Iraqis only ground offensive of the war.

### **Close Air Support**

*We have the enemy surrounded. We are dug in and have overwhelming numbers. But enemy air power is mauling us badly. We will have to withdraw.*

Japanese infantry commander, situation report to  
*Headquarters, Burma -- WWII*<sup>46</sup>

At every point of attack but one, close air support played a significant role in turning back the enemy. To the ground soldier, CAS was not only the most visible but also the most valuable mission provided to their cause. General Boomer, Marine Corps Component Commander, remarked "I am not unhappy with last night . . . (29 January) I

think our air [power] probably stopped them.”<sup>47</sup> But he was unhappy with the amount of sorties allocated to the front. He felt General Horner was using too much of his airpower for deep interdiction and strategic attacks against Baghdad. This is an age old problem that’s existed for 40-years. Change the names of the Marine and Army generals in the Gulf from Boomer and Franks to Arnold and Almond in Korea and the Air Force generals from Horner to Weiland. The situations are both similar, and alarming. In this era of downsizing, the services will need to learn how to work together if they expect to see similar results.

## **Interdiction**

*To have command of the air means to be able to cut an enemy’s army . . . off from their bases of operation and nullify their chance of winning the war.*

General Giulio Douhet<sup>48</sup>

The concept of interdiction is to attack the enemy forces as far away from the friendly forces so as to prevent them from getting to the front – to destroy, divert, disrupt and delay. This means “to destroy the enemy forces and their support before they can be used . . . limit the military potential of engaged enemy . . . control the time of engagement that is most advantages to friendly forces.”<sup>49</sup> Airpower enthusiasts argue this was not only the most significant contribution to the battle but the decisive element during the battle of Khafji.

Airpower enthusiasts believe that as the decisive element, airpower was able to keep the Iraqi reserves from arriving at Khafji. There are several examples of this. The first is when airpower attacked an extremely large convoy north of Khafji. It never reached the town. Another example is the Saudi battalion counterattack into the town.

Although not always happy with the responsiveness of airpower, General Khaled bin Sultan, the Saudi counter-part to General Schwarzkopf, was pleased with the use of airpower once it arrived. As he said in his book, “This time Coalition aircraft were ready for them and inflicted heavy damage, forcing the rest of the column to beat a hasty retreat.”<sup>50</sup> As a result, the Iraqis never reached the town.

When the large-scale attack never occurred, General Schwarzkopf stated, “I’m really not quite sure what the Iraqis intended,” and was perplexed.<sup>51</sup> The Air Force states the reason it never occurred was because airpower destroyed the forces in the main assembling area. The enemy was destroyed, diverted, disrupted, or delayed before it became a factor to the friendly forces all along the front lines.<sup>52</sup> Because of the intelligence gathering assets and command and control, interdiction during this battle was extremely significant. But if the Iraqi’s plan was not an offensive but a defensive strategy, then the Air Force’s interpretation of the battle needs to be revisited. The impact may not have been as quantifiable in terms of changing our doctrine to ‘halt phase’ and stating airpower can single-handedly stop a maneuver force.

### **Emerging Air Force Doctrine**

*The point of the ‘decisive halt’ is to force the enemy beyond their culminating point through the early and sustained overwhelming application of air and space power.*<sup>53</sup>

Air Force Basic Doctrine, AFDD-1 September 1997

The traditional view of conflict may no longer exist. The concept that wars are fought in three phases; halt the invading force, build up the forces and weaken the enemy, and finally mount an offensive/counter-offensive may be obsolete. The United States may not be able to fight along these sequential lines any longer. More than that, it may

also not need to do so. Airpower allows the commander to modulate time and space to shape the battle without regard to being determined by surface force positions. Time can be substituted for territory in terms of effect. An enemy may not allow us the luxury of building up our forces as we did in the Gulf. “Military capability that is vulnerable to preset time lines risks attack of those time lines. Delay in decisively and quickly halting an enemy may force a difficult and costly campaign to recover lost territory.”<sup>54</sup> The United States may need to look at an emerging view of conflict.

The Air Force in their new doctrine states, “The point of the ‘decisive halt’ is to force the enemy beyond their culminating point through the early and sustained overwhelming application of air and space power.” Also, that “the halt phase may be planned as the conflict’s decisive phase, not as a precursor necessarily to a build-up of ground forces.”<sup>55</sup> In the draft copy of Air Force Doctrine Document 2, “Airpower employment in that engagement (Battle of Khafji) isolated the battlefield, destroyed follow-on forces, halted the Iraqi offensive, and demonstrated to the Iraqis the futility of further offensive action.”<sup>56</sup>

A Marine general officer during a lecture at the Air War College stated doctrine was a result of operational experience, preferably combat. The Battle of Khafji was the only time the Iraqis launched an offensive ground attack against the Coalition forces. The lessons learned from the battle should be incorporated into the militaries future doctrine. Dr Rebecca Grant stated in her article that “Khafji demonstrated to all but the most ingrained skeptic the ability of deep air attacks to shape and control the battle and yield advantages for engaged ground forces.”<sup>57</sup> Airpower was significant and did contribute to the final results of the battle. But Dr Grant further states that “In 1991, airpower

identified, attacked, and halted division-sized mechanized forces without the need for a synchronized, ground attack.”<sup>58</sup> First, there was no tangible evidence of division sized attacks. Second, the Marines that died on the border during the Battle of Khafji would argue that their contributions to the battle were just as significant in stopping the Iraqis from attacking further into Saudi Arabia. Third, the Marine air that supported both the Marines and the Joint Force Coalition soldiers would argue that they worked a synchronized attack to halt the invading force. Also, if the troops on the front line had been Army, the Air Force would have needed to allocate more sorties specifically to CAS. They would not have had the luxury of Marine air on-call for CAS. And finally, although air was supplied across the front, the only place the Iraqis were able to penetrate was in those areas undefended by ground forces.

But no one is disputing the effectiveness and significance airpower had during the battle. The Air Force arrogance of “we can do it alone” is not necessary. As stated in a brief during the “Evolution of Tactical Airpower” elective at Air War College, January 1998, “we (the Air Force) pick a side rather than maximize the potential of airpower across the spectrum.”<sup>59</sup> The Air Force has a biased view of airpower and is leaning again towards strategic attack versus tactical (AirLand Battle); the bomber versus the attack. The Air Force needs to be wary of the ‘bomber will always get through’ mentality they had in WWII. Technology will catch up and the stealth will not be invisible. The United States does not want to find itself in the same position it found itself before Korea and Vietnam. Additionally, other services have the perception that historically the Air Force has never lived up to its pre-conflict claims of supporting the ground troops. The reason General Boomer wanted his own air was because he did not trust the Air Force. Desert

Storm and the current embellishment of Air Force success only serves to enhance this perception. There is not another service that does not believe airpower is dominant and a significant element in the battle. In the Battle of Khafji, it was one of the decisive elements in winning the battle, but again, not the only element.

Airpower was one of the significant elements in winning the battle. The Air Force's and Marine's Doctrine of CAS stopped the initial attacks along the border with the ground forces. Interdiction destroyed the follow-on attacking the city of Khafji and kept them from being a factor in the battle. The way the Air Force had organized, trained, and equipped in accordance with their tactical doctrine was very effective. The strategic effect of tactical airpower was also effective. The Air Force doctrine worked.

*Joint warfighters must embrace the implications of the primacy of airpower for future conventional warfare if the conditions for success exist. Campaign planners must apply airpower in the context of these conditions to leverage its capabilities to defeat enemy strategy as was done at Khafji. Combatant commanders must structure their forces to capitalize on the role airpower plays in defeating mechanized forces.<sup>60</sup>*

## Notes

<sup>1</sup> Jeffrey B. Rochelle, *The Battle of Khafji: Implications for Airpower*, School of Advanced Airpower Studies, Air University, Maxwell AFB, Alabama, June 1994, p. 19.

<sup>2</sup> Michael R. Gordon and Bernard E. Trainor, *The Generals War: The Inside Story of the Conflict in the Gulf*. Boston, New York, Toronto, and London: Little, Brown and Company, 1994, p. 286.

<sup>3</sup> Clevenger, "The Battle of Khafji," p. 28.

<sup>4</sup> Interview with Horner over the Internet.

<sup>5</sup> Westenhoff, p. 25.

<sup>6</sup> Rebecca Grant, "The Epic Little Battle of Khafji," *Air Force Magazine*, February 1998, p. 34.

<sup>7</sup> Westenhoff, p. 39.

<sup>8</sup> Clevenger, "The Battle of Khafji," p. 15.

## Notes

<sup>9</sup> “EPW interviews” *AWC Khafji Study* (Maxwell, AFB: Air Force Historical Research Agency) Computer File Name War\_reps\khafji\8ID\0079-91 &\3rdAD\0132-91.

<sup>10</sup> Video briefing by LTC Barry, USMC conducted on 22 Jan 91. Tape located at USMC Historical Center. Naval Yard, Washington D.C.

<sup>11</sup> Ibid.

<sup>12</sup> Summary of Intelligence briefing notes to LTG Boomer by CAPT Decker and LT Bell (G-2 Staff) from 30 Jan-2 Feb. No page numbers.

<sup>13</sup> Video briefing by LTC Barry.

<sup>14</sup> Briefing notes to LTG Boomer by “Air” staff representative conducted on the morning of 31 Jan 91. No page numbers.

<sup>15</sup> Northrop Grumman Corporation, *Joint STARS Data Analysis of “The Battle of Khafji” Final Report*, Northrop Grumman Corporation, Surveillance and Battle Management Systems, Electronics and Systems Integration Division, Melbourne FL, 8 May 97, pp. 26-40.

<sup>16</sup> Westenhoff, p.

<sup>17</sup> *Global Engagement: A Vision for the 21<sup>st</sup> Century Air Force*. Department of the Air Force, Washington D.C., p. 14.

<sup>18</sup> Interview conducted by Lt Col Peter Palmer with James B. Bruce, Executive Secretary FDDC, and National Intelligence Council on 3 April 1998.

<sup>19</sup> Interview with Horner over the Internet.

<sup>20</sup> *Conduct of the Persian Gulf War*, Final Report to Congress. Appendices A-S, p. C-16.

<sup>21</sup> Task Force 4, TAC Liaison Officer LOG, Part 1, 16-31 January 1991 in USAF Collection, AFHRA (S). Unclassified entry explaining the CENTAF J-2’s assessment of the actions occurring at Khafji early in the morning of 30 January 1991.

<sup>22</sup> Glosson interview over internet

<sup>23</sup> Task Force 4, TAC Liaison Officer Log.

<sup>24</sup> Official video debrief of Lt Col R. Barry, USMC, USMC Operation in and near Al Khafji, Saudi Arabia, 28-29 Jan 91, Office of the Command Historian, HQMC Washington, D.C., (Declassified Jan 98)

<sup>25</sup> Gordon and Trainor, p.267-271.

<sup>26</sup> Westenhoff, p. 76.

<sup>27</sup> Task Force IV TACC NCO Log. 29 January 1991. TF 6-46-482 in USAF Collection, AFHRA. (S) Compiled from various entries discussing the communication problems experienced during the engagement.

<sup>28</sup> Task Force IV, TACC Liaison Officer Log. Part 1 16-31 January 1991. In USAF Collection, AFHRA TF 4-12-227 (S)

<sup>29</sup> *Global Engagement: A Vision for the 21<sup>st</sup> Century Air*, p. 14.

<sup>30</sup> *Gulf War Air Power Survey, Planning and Command and Control*, Vol. 1. (S/N/W). Unclassified list of Key Findings, p. 361

<sup>31</sup> James A. Winnefeld, et al. A League of Airmen: U.S. Air Power in the Gulf War, p. 217

## Notes

<sup>32</sup> Ibid, p. 260.

<sup>33</sup> GWAPS, p. 132.

<sup>34</sup> Edward C. Mann III. *Thunder and Lightning: Desert Storm and the Airpower Debates*, Air University Press, Maxwell Air Force Base, Alabama, p. 156.

<sup>35</sup> Before General Schwarzkopf would launch the ground offensive, he desired the Iraqi defensive force to be destroyed by approximately 50% end strength. This was derived from the concept that an army cannot attack with less than 70% strength and withstand an attack with less than 50%. Until he was assured of these numbers, he would wait to launch the left hook.

<sup>36</sup> Winnefeld. p. 217.

<sup>37</sup> Ibid. p. 218.

<sup>38</sup> Ibid. p. 149-150.

<sup>39</sup> Task Force IV, TACC Liaison Officer Log. Part 1 16-31, January 1991. TF4-12-227 in USAF Collection, AFHRA (S). Information cited is derived from classified sources.

<sup>40</sup> Ibid

<sup>41</sup> James Winnefeld, et al, *A League of Airmen: U.S. Air Power in the Gulf War*, RAND, Santa Monica, CA, 1994, p. 159.

<sup>42</sup> Ibid. p. 218-219.

<sup>43</sup> John L. Romjue. *From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982*, Historical Office, United States Army Training and Doctrine, Fort Monroe, VA, June 1984, p. 44.

<sup>44</sup> Ibid. p. 62.

<sup>45</sup> Hal Winston, "On the Army and Air Force Between Vietnam and the Gulf," Air University, Department of Strategy and Doctrine, Volume II, p.

<sup>46</sup> Westenhoff, p. 17. p. 23.

<sup>47</sup> Rochelle. p. 20.

<sup>48</sup> Clevenger. "Battle of Khafji." p. 12.

<sup>49</sup> Ibid. p. 23.

<sup>50</sup> Khaled Bin Sultan, *Desert Warrior: A Personal View of the Gulf War by the Joint Force Commander*, Harper & Collins Publishers, New York, 1995, p. 385. During the second attack, a column of approximately 100 mechanized vehicles began coming down the road north of Khafji. General Sultan comments that initially the air forces did not show up and his mechanized battalion attacked the force. After his initial attack, airpower became available and finished off the retreating vehicles. Throughout this battle, there are differences of opinion between Sultan and Schwarzkopf.

<sup>51</sup> Interview with Schwarzkopf.

<sup>52</sup> Northrop Grumman Corporation, Briefing, Joint STARS Data Analysis – "The Battle of Khafji" Scientific and Final Report, Surveillance and Battle Management Systems, and Electronics and Systems Integration Division, Melbourne, FL 8 May 1997. From the JSTARS data, it is assumed that these forces were assembling for the follow-on attack or for a defense in depth maneuver. In accordance with Iraqi doctrine and if you study the Iran-Iraqi eight-year war, it looks more like they were preparing for a defense in

## Notes

depth operation that may have changed for many different reasons. After gaining Khafji, Saddam may have felt he could take the offense more and gotten slightly over confident. No matter, if the goal was to establish a defense in depth campaign and pull the Coalition forces into the free fire kill zones with either artillery or the tanks from the 3<sup>rd</sup> Armor, they were still interdicted and caused to have very little affect during the 100 hour ground offensive. In fact, the Marines and Saudis changed their initial game plan and opened up the front along the Kuwaiti border for a three pronged attack versus a single pronged attack with the Saudis in reserve. The battlefield was prepped for both the Coalition's ground campaign or it did destroy the follow-on 2<sup>nd</sup> echelon forces prior to them reaching the border during Khafji.

<sup>53</sup> "Air Force Basic Doctrine." Air Force Doctrine Document 1, Headquarters Air Force Doctrine Center, Maxwell, AFB, AL, September 1997, p. 42.

<sup>54</sup> Ibid. p. 42.

<sup>55</sup> Ibid. p. 42.

<sup>56</sup> "Global Engagement: Air and Space Power Organization and Employment." Air Force Doctrine Document 2, Headquarters Air Force Doctrine Center, Maxwell AFB, AL, Draft Version 8, not for implementation or compliance, p. 10.

<sup>57</sup> Grant. p. 34.

<sup>58</sup> Ibid. p. 34.

<sup>59</sup> Air War College Student, "Operational Doctrine in the United States Air Force," Briefing, Evolution of Tactical Airpower Elective, Air War College, Maxwell Air Force Base, AL, January 1998.

<sup>60</sup> Rochelle, p. 26.

## Chapter 5

### Conclusions

*The next war is certain to be one of maneuver and movement . . . The nation that does not command the air will face deadly odds.*

—General of the Army, Douglas MacArthur<sup>1</sup>

During the Battle of Khafji, the Air Force commanded the air and the enemy faced deadly odds. The destruction was complete. But was airpower the decisive element? Did the use of airpower decide the outcome of the Battle of Khafji? Was it any different than the way we have been fighting wars since the inception of airpower? What were the Iraqis trying to accomplish? How did C4ISR, BDA, and Doctrine play during this battle?

Although three divisions provided forces, only a few battalions actually attempted to attack across the border. Their purpose most likely was to obtain prisoners and intelligence. Based on the movement and dispositions of unit in Kuwait, provided by JSTARS, it appears that they were moving to set their defense against a coalition offensive. Consequently, if this was not a major offensive, but a limited reconnaissance in force, then airpower may not have achieved the “halt phase” type effect.

C4ISR (Information Warfare) played significant positive and negative roles during the battle. The information was readily available during the specific

conflicts, but the units involved failed to transmit it in a responsive manner. The assets were airborne and available, and sometimes even performing the correct function. They just did not give the information to the right people at the right time and/or use it correctly. The Air Force needed to decide who the coordinator was and put the right assets at the right place at the right time to get the job done in the most efficient manner. The command and control at times was a major problem and caused many aircraft to divert to secondary targets or worse, bring their bombs back to home base.

Battle Damage Assessment was a problem throughout the theater and the estimates of equipment destroyed inaccurate. No one will ever know the true physical damage to the Iraqis, but the numbers proclaimed by the different agencies is very inconsistent. It appears that Mr. Talbot's study has a more scientific basis for support. As a consequence, his lower BDA estimates also reinforce the concept that destruction of enemy forces was not the major reason for stopping subsequent attacks. However, psychological effects of airpower may have played a significant role against this enemy.

The more important lesson to be learned from this battle is the lack of a viable system that can conduct timely battle damage assessment or better yet, a battle assessment indicator. This system must also account for the denial and deceptions operations by enemy forces. This system will be necessary if the 'halt phase' style operation is every to come to fruition.

Each of these areas is important and significant to the results and analysis of the Battle of Khafji. In the end though, ground blocked Iraqi attempts to penetrate friendly

lines and effectively counterattacked in Khafji. The Battle of Khafji was a reflection of classic AirLand Battle doctrine, an early 1980's concept developed at TRADOC, the Army's Doctrine center. It represented the tactical use of airpower to help decide the outcome of a battle. While significant and profound, airpower was not **the** decisive factor. It was **one** of the decisive factors and a significant contributor to the overall outcome of the battle and was employed in a manner developed over the decades, our doctrine.

What this battle also demonstrates is that under the right conditions with the right assets, airpower can be dominant. It can be significant in defeating an advancing army. With our new technology and precision weapons, we can dominate a battlefield for 24 hours a day. The same technological improvements and types of precision weapons are also part of the Army's new inventory. A single AH-64 Battalion operating at night and in poor weather destroyed 38 T-72s, 14 BMPs and 70 odd trucks during the ground offensive.<sup>2</sup> This was done without the assistance of JSTARS and fix-winged attack assets. During the battle of 73<sup>rd</sup> Easting, the Army maneuver forces destroyed parts of the Republican Guard with their night capabilities and precision weapons aboard their tanks and Bradley's. If the military can integrate our capabilities on the JSTARS with the Army's helicopters and tanks, the synergistic affect over and on the battlefield, no matter the weather or time of day, will be awesome. Price T. Bingham states:

Air interdiction and ground maneuver must be synchronized so that each complements and reinforces the other. Synchronization is important because it can create a dilemma for the enemy that has no satisfactory answer. His dilemma is this: if he attempts to counter ground maneuver by moving rapidly, he exposes himself to unacceptable losses from air interdiction; yet if he employs measures that are effective at reducing losses caused by air interdiction, he then cannot maneuver fast enough to counter the ground component of the campaign.<sup>3</sup>

It is a matter of timing and effective integration of **JOINT** forces. Furthermore, the impact is determined not just by what our military does in battle but by what the enemy cannot do; not just by what is destroyed on the battlefield, but what the effect was on the enemy. Not using it may be just as effective as losing it. And our military can prevent him from using his forces in an effective manner. The part of the military that prevents the enemy from using its forces may be the Air Force or it may be the Army. More than likely it will be a joint use of force that determines the outcome of the battle. The “halt phase” might be better interpreted as Joint Doctrine.

There are numerous lessons to be learned from Khafji besides the contributions of airpower. After looking specifically at airpower and Khafji, Wilfred L. Goodson speaks directly at areas the Air Force needs to consider. “Some of the areas where our modeling of air combat greatly needs improvement:

1. Command creativity – too often neglected.
2. Lethality – too often overestimated.
3. Employment strategy options – too often ignored.<sup>4</sup>

This speaks directly to C4ISR, BDA and Doctrine. The Air Force has neglected their command and control, overestimated their lethality and failed to have a cohesive doctrine. The future of the Air Force is dependent on studying the past in order to prepare and respond for the future.

The future is important and the strategic implications of Khafji are critical in preparing for it. Looking at this battle, the Air Force must see what it did for the overall campaign in supporting the CINC’s objectives. Yes, airpower played a very large role and was extremely effective. It was critical to the success of the battle. It was also very

significant. But it also was only a part of an overall victory that included other elements of the military that contributed a significant and critical part of the puzzle. Without the other forces throughout the battle, the outcome could have been significantly different. It might even be argued that without the Marines at the outposts, the Iraqi ground forces could have driven much further into the Saudi homeland and caused a strategic impasse. The correct lessons learned from the battle must be pulled from utilizing all the data from every organization and must be drawn without a bias towards one service or another. Parochialism must not be a part of any future study. Each service played a significant role.

On 30 January 1991, Major General Salah Aboud Mahmaud, the 3<sup>rd</sup> Corps Iraqi Commander called President Saddam Hussein to ask permission to retreat back into Kuwait. After he got off the phone with President Hussein, he looked at the same executive officer he had spoken to several days earlier and said, we should have known the F-111 attack was a bad omen. President Hussein had just told him that “he was in the Mother of all Battles” and not to retreat back into Kuwait. General Mahmaud told Hussein that may be true, but “the mother is killing her children.”<sup>5</sup>

*There is no question that U.S. air power was the single most dominant element of the allied victory in the Gulf. But to extrapolate from the Gulf experience, to argue that air power is the only meaningful component of national power is to set the nation up for failure.*<sup>6</sup>

*It falls to you to derive the lessons learned from this war.*

*President George Bush*<sup>7</sup>

## Notes

<sup>1</sup> Clevenger, “*Battle of Khaffji*,” p. 42.

<sup>2</sup> Price T. Bingham, *The Battle of Al Khafji and the Future of Surveillance Precision Strike*, and undated and unpublished, p. 18.

<sup>3</sup> Westenhoff, p. 47.

<sup>4</sup> Ibid. p. 94.

<sup>5</sup> Gordon and Trainor, p. 286.

<sup>6</sup> James A. Winfield, *A League of Airmen: U.S. Air Power in the Gulf War*, RAND, Santa Monica, CA, 1994, p. 275.

<sup>7</sup> Clevenger, “*Battle of Khafji*.” p. 40.

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